UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

CIVIL ACTION NO. 22-11546-RGS

RADIUS HEALTH, INC.
and IPSEN PHARMA S.A.S.

v.

ORBICULAR PHARMACEUTICAL
TECHNOLOGIES PRIVATE LIMITED

MEMORANDUM AND ORDER ON
CLAIM CONSTRUCTION

August 4, 2023

STEARNS, D.J.

Plaintiffs Radius Health, Inc., and Ipsen Pharma S.A.S. (collectively, Radius) accuses defendant Orbicular Pharmaceutical Technologies Private Limited (Orbicular) of infringing United States Patent Nos. RE49,444 (the '444 patent), 8,148,333 (the '333 patent), 8,748,382 (the '382 patent), and 10,996,208 (the '208 patent). Before the court are the parties' briefs on claim construction. The court heard argument pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), on August 1, 2023.

THE PATENTS

Abaloparatide is a parathyroid hormone-related protein capable of improving human bone mass and quality. The '333, '382, and '444 patents

are directed to storage-stable compositions containing abaloparatide and to methods of administering abaloparatide compositions to treat osteoporosis or stimulate bone growth. The '208 patent is directed to abaloparatide drug formulations that contain less than 5% of a certain impurity (beta-Asp10).

For the purposes of claim construction, four claims are relevant:

'208 patent

> 14. A formulated abaloparatide drug product comprising ≤5% w/w beta-Asp10 of the total peptide content, and an aqueous buffer having a pH from 4.5-5.5, wherein said formulated abaloparatide drug product has an abaloparatide concentration of between 1.8 mg/mL and 2.2 mg/mL, wherein the suitability of the formulated abaloparatide drug product for administration to a subject has been established by a method comprising: detecting and quantifying the presence of ≤5% w/w beta-Asp10 of the total peptide content in the formulated abaloparatide drug product.
>
> 15. The formulated abaloparatide drug product of claim 14, comprising ≤1.0% w/w beta-Asp10 of the total peptide content.

'333 patent

> 13. The storage-stable composition according to claim 1, wherein said composition does not contain a chemical stabilizer.

'382 patent:

> 8. The method of claim 1, wherein said subject has a bone fracture.

Specifically, the parties dispute the following terms used in these four claims:

- "wherein the suitability of the formulated abaloparatide drug product for administration to a subject has been established by a

method comprising: detecting and quantifying the presence of ≤5% [≤1%] w/w beta-Asp10 of the total peptide content in the formulated abaloparatide drug product"

- "said composition does not contain a chemical stabilizer"
- "said subject has a bone fracture"

DISCUSSION

Claim construction is a matter of law. *See Markman*, 517 U.S. at 388-389. Claim terms "are generally given [the] ordinary and customary meaning" that would be ascribed by a person of ordinary skill in the art in question at the time of the invention.[1] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-1313 (Fed. Cir. 2005) (en banc), quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). In determining how a person of ordinary skill in the art would have understood the claim terms at the time of the invention, the court looks to the specification of the patent, its prosecution history, and, in limited instances where appropriate, extrinsic evidence such as dictionaries, treatises, or expert testimony. *Id.* at 1315-1317. Ultimately, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's

[1] The parties have not briefed the background qualifications that a person of ordinary skill in the art should possess, although the terms at issue would presumably be understood by any competent and experienced laboratory technician involved in the treatment of osteoporosis patients.

description of the invention will be, in the end, the correct construction." *Id.* at 1316, quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

"wherein the suitability of the formulated abaloparatide drug product for administration to a subject has been established by a method comprising: detecting and quantifying the presence of ≤5% [≤1%] w/w beta-Asp10 of the total peptide content in the formulated abaloparatide drug product"

The parties dispute whether claims 14 and 15 require that suitability be determined by use of a particular method of detecting and quantifying the presence of beta-Asp10 at the recited levels.[2] Specifically, Orbicular asserts that the detecting and quantifying step of claims 14 and 15 requires use of a "method comprising an aqueous buffer wherein said aqueous buffer has a pH range of between 6-10 prior to mixing with any additional mobile phase solvent(s)." Def.'s Opening Br. [Dkt # 31] at 3. Radius, for its part, believes that any method of detecting and quantifying may be used and that

[2] Although Orbicular expressed concerns during the *Markman* hearing that Radius did not construe the term to require the use of *any* particular method, the court does not understand Radius to dispute that, consistent with the plain language of the claim, the suitability of the claimed drug product must have been established according to a method comprising detection and quantification of the presence of the beta-Asp10 impurity. *See* Pls.' Opening Br. [Dkt # 33] at 8 ("As is clear from the claim language, claims 14 and 15 of the '208 patent are directed to formulated abaloparatide drug products (with certain, recited features) that have been determined suitable for administration to a subject by 'detecting and quantifying the presence of' beta-Asp10 at certain, recited levels.").

construing claims 14 and 15 to incorporate Orbicular's proposed limitation would "run[] counter to the plain language of the claims" and "well-settled claim construction principles." Pls.' Opening Br. at 9.

The court finds Radius's construction more consistent with the intrinsic record. First, nothing in the plain language of claims 14 and 15 suggests that the invention is limited to drug formulations whose suitability has been determined using a particular method of detecting and quantifying the presence of beta-Asp10. *See Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009) ("The claims, not specification embodiments, define the scope of patent protection. The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims."). It is hard to view this absence as anything other than intentional given the *express* incorporation of a specific method for the detecting and quantifying step in claims 1 through 13. *See id.* at 1347 ("Here, when the inventor wanted to restrict the claims to require the use of a key, he did so explicitly.").

Even if the claim language somehow left room for ambiguity, however, the specification does not demonstrate any clear intent to disavow drug formulations whose suitability has been determined using other methods of detecting and quantifying the presence of beta-Asp10. At most, Orbicular

notes that the only method of detecting and quantifying beta-Asp10 disclosed in the specification is one using an aqueous buffer with a specified pH range. *See* '208 patent, col. 3, l. 48-col. 4, l. 13. But the relevant claims are not directed to a *method* of detecting and quantifying beta-Asp10. They are directed to a *drug formulation*, the suitability of which has been established by detecting and quantifying the presence of beta-Asp10 (*i.e.*, in which the limited percentage of beta-Asp10 is intentional). Orbicular fails to offer any convincing explanation for why a passage describing a specific methodology embodiment "expressly or by clear implication restrict[s] the scope of" the separately-claimed drug formulation invention. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 908 (Fed. Cir. 2004).

Nothing in the prosecution history points in a different direction. The methodology limitation was added in response to a rejection that issued *before* the author added any drug formulation claim to the application. If anything, the fact that the patentee opted not to include this methodology in the later-added drug formulations claims and that the examiner nevertheless found these claims patentable underscores the intent not to limit the claims to that one methodology. Moreover, although Orbicular suggests that the patentability decision necessarily rested on incorporation of the relevant methodology, it does not identify any explicit statement by the examiner

indicating that the limitations of claim 1 are incorporated into claims 14 and 15. *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1347 (Fed. Cir. 2008) (declining to import a limitation from one independent claim into another independent claim where nothing in "the language of the examiner's statement of reasons for allowance indicate[s] that the display method recited in claims 4-6 is constrained by the Track and Roller Limitation"). Nor does it provide the court with any reasonable basis to otherwise infer that the examiner only allowed the claims to issue to the extent they incorporated the methodology described in claim 1.

"said composition does not contain a chemical stabilizer"

The parties agree that the specification explicitly defines "stabilizer" as "a composition which maintains the chemical, biological or hormonal stability of the peptide." '333 patent, col. 5, ll. 27-29. Their dispute centers around whether a "chemical stabilizer" is a *chemical* which maintains the chemical, biological, or hormonal stability of the peptide or a composition which maintains the *chemical stability* of the peptide.

The court adopts the second construction. The specification describes Figure 1 as "showing the stability of SEQ ID NO. 2 . . . without any chemical stabilizer." *Id.*, col. 2, ll. 39-41. It later elaborates that the results of the experiment underlying Figure 1 "confirm excellent chemical stability" even

though the solution (which *does* have a buffer, undercutting Orbicular's proposed construction) "contains no stabilizer." *Id.*, col. 7, ll. 41-43. The clear implication of this passage is that the chemical stabilizer referenced earlier is a stabilizer designed to maintain chemical stability.[3]

This interpretation does not conflict with the intent of the patent to provide a "storage-stable" composition. A composition is not necessarily "chemically unstable" merely because it does not include a component specifically intended to maintain the chemical stability of the peptide. *See* Def.'s Opening Br. at 16 (emphasis removed). To the contrary, the patent expressly contemplates maintaining chemical stability for storage purposes without the use of a stabilizer designed for this purpose. *See* '333 patent, col. 7, ll. 41-43; *cf. id.*, col. 12, l. 64-col. 13, l. 38 (noting that, even once biological stabilizers were added to the composition, "chemical stability" was "not significantly influenced by" the choice of a biological stabilizer).

To the extent Orbicular attempts to find support for its construction in the prosecution of related patents, the court is not persuaded. Nothing within the cited language from U.S. Patent No. 7,803,770 indicates that a

[3] For substantially the same reason, the court disagrees that use of the term "stabilizer" in describing the results of the experiment demonstrates a lack of any meaningful difference between "stabilizer" and "chemical stabilizer." Stabilizer is explicitly linked to chemical stability in the sentence.

chemical stabilizer must be a chemical. And because the European applications are extrinsic to the patent, they cannot be used to import limitations when, as here, "the appropriate definition can be ascertained from the specification." *See Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*, 790 F.3d 1298, 1305 (Fed. Cir. 2015); *see also Sinorgchem Co., Shandong v. Int'l Trade Comm'n*, 511 F.3d 1132, 1138 (Fed. Cir. 2007) ("When the specification explains and defines a term used in the claims, without ambiguity or incompleteness, there is no need to search further for the meaning of the term."), quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998).

"said subject has a bone fracture"

As clarified during the *Markman* hearing, the parties dispute whether the claims cover a scenario in which the administration regimen involves the injection of a series of doses,[4] during which a patient develops a bone fracture. The court finds that it does. The plain text of the claim leaves no room for ambiguity: It requires that a subject "has" a bone fracture *at the time the method in claim 1 is performed*. The method of claim 1 is still being

[4] The court expresses no opinion as to what it means to "administer" a composition, as the parties did not designate the term for construction.

performed if administration is ongoing at the time the bone fracture develops.

ORDER

The claim terms at issue will be construed for the jury and for all other purposes in the pending litigation in a manner consistent with the above rulings of the court.

SO ORDERED.

/s/ Richard G. Stearns
UNITED STATES DISTRICT JUDGE